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Examiner Requested

8/5/04

KT (from email)

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of managing electronic mail, the method comprising the computer-implemented steps of:

automatically generating certain criteria based on contents of a plurality of electronic mail messages received over a network;

wherein the step of automatically generating certain criteria includes:

automatically determining what particular content to use to identify electronic mail messages as a first type of electronic mail message by performing steps that include determining that a threshold number of said plurality of electronic mail messages have a particular content, and

in response to determining that a threshold number of said plurality of electronic mail messages have said particular content, generating one or more criteria that identifies electronic mail messages that have said particular content as the first type of electronic mail;

receiving an electronic mail message over said network;

determining whether said electronic mail message satisfies said one or more criteria;

if said electronic mail message satisfies said one or more criteria, then processing said electronic mail message as said first type of electronic mail;

if said electronic mail message does not satisfy said one or more criteria, then processing said electronic mail message as a second type of electronic mail;

wherein said first type of electronic mail is processed differently than said second type of electronic mail; and

23 wherein at least one electronic mail message of said plurality of electronic mail messages
 24 has not been classified, before determining that a threshold number of said
 25 plurality of electronic mail messages have a particular content, as belonging to
 26 said first type.

1 2. (Previously Presented) The method of Claim 1 wherein:
 2 the method further comprises the step of generating a message signature for said
 3 electronic mail message based on contents of said electronic mail message; and
 4 the step of determining whether said electronic mail message satisfies one or more
 5 criteria is based on said message signature.

1 3. (Previously Presented) The method of Claim 1, wherein determining that a threshold
 2 number of said plurality of electronic mail messages have a particular content includes
 3 determining that at least a portion of each of said plurality of electronic mail messages
 4 have said particular content.

1 4. (Previously Presented) The method of Claim 1, wherein the step of generating certain
 2 criteria based on contents of a plurality of electronic mail messages received over said
 3 network includes tracking how many message signature elements of said plurality of
 4 electronic mail messages match.

5. (Previously Presented) The method of Claim 1 wherein the step of generating certain criteria based on contents of a plurality of electronic mail messages received over said network includes the steps of:

generating message signatures for each electronic mail message of said plurality of electronic mail messages, wherein each message signature includes one or more message signature elements; and

counting how many of said one or more message signature elements match message signature elements from other message signatures.

6. (Previously Presented) The method of Claim 5 wherein the step of determining whether said electronic mail message satisfies said one or more criteria includes determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements of previously generated message signatures.

7. (Previously Presented) The method of Claim 6 wherein the step of determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements further includes determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements of previously generated message signatures that are associated with a period of time.

8. (Original) The method of Claim 1 wherein the step of processing said electronic mail message as a first type of electronic mail includes adding a bulk electronic mail flag to said electronic mail message.

9. (Original) The method of Claim 8, further including the steps of:
 after processing said electronic mail message as a first type of electronic mail,
 transmitting said electronic mail message to an electronic mail server;
 said electronic mail server receiving said electronic mail message;
 said electronic mail server determining whether said electronic mail message contains
 said bulk electronic mail flag; and
 if said electronic mail message contains said bulk electronic mail flag, then processing
 said electronic mail message without further verifying whether said electronic
 mail message is bulk electronic mail.

10. (Currently Amended) A method of managing electronic mail, the method comprising the steps of:
 a central server receiving message signatures from a set of electronic mail servers a
~~message signature generated from an electronic mail message;~~
 automatically determining what particular content to use to identify electronic mail
messages as bulk electronic mail by performing steps that include determining
that a threshold number of message signatures received by said central server
from said set of electronic mail servers match;
in response to determining that a threshold number of message signatures received by
said central server from said set of electronic mail servers match, generating

~~certain~~ a set of one or more criteria based on contents of a plurality of that
~~identifies~~ electronic mail messages received over a network that have said
~~particular content as bulk electronic mail;~~

an electronic mail server determining whether ~~said~~ a particular message signature for an
electronic mail message satisfies a said set of one or more criteria, ~~wherein said set~~
~~of one or more criteria is based on message signatures previously received by said~~
~~central server from the set of electronic mail servers;~~

if ~~said received~~ particular message signature satisfies said set of one or more criteria, then
said electronic mail server processing said electronic mail message as bulk
electronic mail;

~~wherein the step of said electronic mail server determining whether said message~~
~~signature satisfies a set of one or more criteria includes determining whether a~~
~~portion of said message signature matches a portion of each of a threshold number~~
~~of message signatures previously received by said central server from said set of~~
~~electronic mail servers; and~~

wherein said threshold number of message signatures are generated from a plurality
electronic mail messages ~~that;~~ and

wherein said plurality of electronic mail messages include at least one message that has
not been identified, as bulk electronic mail, before determining ~~whether a portion~~
~~of said message signature matches a portion of each of that~~ a threshold number of
message signatures ~~previously received by said central server from said set of~~
electronic mail servers match.

11. (Canceled)

12. (Currently Amended) The method of Claim 10, wherein: the step of a central server receiving from an electronic mail server ~~a message signature~~signatures includes receiving a set of one or more ~~values generated by a one-way hash function~~; and the step of said electronic mail server determining whether a portion of said message signature matches ~~includes determining whether at least one of said set of one or more values matches a threshold number of previously received values generated by a one-way hash function.~~

13. (Original) The method of Claim 12, the method further including the step of transmitting one or more messages to said electronic mail server specifying changes to one or more routines invoked by said electronic mail server to generate message signatures.

14. (Original) The method of Claim 13, wherein the step of transmitting one or more messages includes transmitting platform-independent byte code.

15. (Currently Amended) A method of managing electronic mail transmitted over a network, the method comprising the steps of:
a central server receiving from a set of electronic mail servers certain message signatures generated from ~~a plurality~~a plurality electronic mail messages received by said set of electronic mail servers, wherein each message signature of said certain message signatures includes one or more message signature elements;
said central server generating ~~counts~~a count of how many times said one or more message signature elements are matched by message signature elements from

message signatures generated for other electronic mail messages of said plurality
of electronic mail messages;

automatically determining what particular content to use to identify electronic mail
messages as a first type of electronic mail message by performing steps that
include determining that a threshold number of said plurality of electronic mail
messages have a particular content based on said count; and
in response to determining that a threshold number of said plurality of electronic mail
messages have said particular content, generating one or more criteria that
identifies electronic mail messages that have said particular content as the first
type of electronic mail;

wherein at least one message of said plurality of electronic mail messages has not been
classified, before determining that a threshold number of said plurality of
electronic mail messages have a particular content, as belonging to said first type;
 and

said central server transmitting a message reflecting said ~~counts~~ one or more criteria.

16. (Previously Presented) The method of Claim 15, wherein:

the step of a central server receiving includes receiving a particular recipient signature
 associated with a particular message signature; and

the step of generating counts includes generating counts of how many times said one or
 more message signature elements match message signature elements that are:
 generated for other electronic mail messages, and
 associated with a recipient signature that differs from said particular recipient
 signature.

1 17. (Canceled)

1 18. (Currently Amended) The method of Claim 16, wherein the step of transmitting messages
 2 ~~reflecting said counts~~ includes transmitting message signature elements associated with
 3 counts greater than a threshold.

1 19 - 25. (Canceled)

1 26. (Currently Amended) A computer-readable medium carrying one or more sequences of
 2 one or more instructions for managing electronic mail, wherein the execution of the one
 3 or more sequences of the one or more instructions causes the one or more processors to
 4 perform the steps of:

5 automatically generating certain criteria based on contents of a plurality of electronic
 6 mail messages received over a network;

7 wherein the step of automatically generating certain criteria includes:

8 automatically determining what particular content to use to identify electronic

9 mail messages as a first type of electronic mail message by performing

10 steps that include determining that a threshold number of said plurality of

11 electronic mail messages have a particular content, and

12 in response to determining that a threshold number of said plurality of electronic

13 mail messages have said particular content, generating one or more criteria

14 that identifies electronic mail messages that have said particular content as

15 the first type of electronic mail;

16
 17 receiving an electronic mail message over said network;

18 determining whether said electronic mail message satisfies said one or more criteria;
 19 if said electronic mail message satisfies said one or more criteria, then processing said
 20 electronic mail message as said first type of electronic mail;
 21 if said electronic mail message does not satisfy said one or more criteria, then processing
 22 said electronic mail message as a second type of electronic mail;
 23 wherein said first type of electronic mail is processed differently than said second type of
 24 electronic mail; and
 25 wherein at least one electronic mail message of said plurality of electronic mail messages
 26 has not been classified, before determining that a threshold number of said
 27 plurality of electronic mail messages have a particular content, as belonging to
 28 said first type.

1 27. (Previously Presented) The computer-readable medium of Claim 26 wherein:
 2 the computer-readable medium further comprises sequences of instructions for
 3 performing the step of generating a message signature for said electronic mail
 4 message based on contents of said electronic mail message; and
 5 the step of determining whether said electronic mail message satisfies said one or more is
 6 based on said message signature.

1 28. (Previously Presented) The computer-readable medium of Claim 26 wherein determining
 2 that a threshold number of said plurality of electronic mail messages have a particular
 3 content includes determining that at least a portion of each of said plurality of electronic
 4 mail messages have said particular content.

29. (Previously Presented) A computer-readable medium carrying one or more sequences of one or more instructions for managing electronic mail, wherein the execution of the one or more sequences of the one or more instructions causes the one or more processors to perform the steps of:

a central server receiving message signatures from a set of electronic mail servers a ~~message signature generated from an electronic mail message;~~

automatically determining what particular content to use to identify electronic mail messages as bulk electronic mail by performing steps that include determining that a threshold number of message signatures received by said central server from said set of electronic mail servers match;

in response to determining that a threshold number of message signatures received by said central server from said set of electronic mail servers match, generating a set of one or more criteria that identifies electronic mail messages that have said particular content as bulk electronic mail;

an electronic mail server determining whether ~~said a particular message signature for an electronic mail message satisfies a said set of one or more criteria, wherein said set of one or more criteria is based on message signatures previously received by said central server from the set of electronic mail servers;~~

if said ~~received~~particular message signature satisfies said set of one or more criteria, then said electronic mail server processing said electronic mail message as bulk electronic mail;

~~wherein the step of said electronic mail server determining whether said message signature satisfies a set of one or more criteria includes determining whether a~~

25 ~~portion of said message signature matches a portion of each of a threshold number~~
 26 ~~of message signatures previously received by said central server from said set of~~
 27 ~~electronic mail servers; and~~
 28 wherein said threshold number of message signatures are generated from a plurality
 29 electronic mail messages ~~that; and~~
 30 wherein said plurality of electronic mail messages include at least one message that has
 31 not been identified, as bulk electronic mail, before determining ~~whether a portion~~
 32 ~~of said message signature matches a portion of each of~~ that a threshold number of
 33 message signatures ~~previously received by said central server from said set of~~
 34 electronic mail servers match.

1 30. (Canceled)

1 31. (Currently Amended) A computer-readable medium carrying one or more sequences of
 2 one or more instructions for managing electronic mail, wherein the execution of the one
 3 or more sequences of the one or more instructions causes the one or more processors to
 4 perform the steps of:
 5 a central server receiving from a set of electronic mail servers certain message signatures
 6 generated from a plurality electronic mail messages received by said set of
 7 electronic mail servers, wherein each message signature of said certain message
 8 signatures includes one or more message signature elements;
 9 said central server generating ~~counts~~ a count of how many times said one or more
 10 message signature elements are matched by message signature elements from

message signatures generated for other electronic mail messages of said plurality
of electronic mail messages;

automatically determining what particular content to use to identify electronic mail
messages as a first type of electronic mail message by performing steps that
include determining that a threshold number of said plurality of electronic mail
messages have a particular content based on said count; and
in response to determining that a threshold number of said plurality of electronic mail
messages have said particular content, generating one or more criteria that
identifies electronic mail messages that have said particular content as the first
type of electronic mail;

wherein at least one message of said plurality of electronic mail messages has not been
classified, before determining that a threshold number of said plurality of
electronic mail messages have a particular content, as belonging to said first type;
 and

said central server transmitting a message reflecting said ~~count~~ one or more criteria.

32 – 37 (Canceled)

38. (Previously Presented) The computer-readable medium of Claim 26 wherein the step of
 generating certain criteria based on contents of a plurality of electronic mail messages
 received over said network includes tracking how many message signature elements of
 said plurality of electronic mail messages match.

39. (Previously Presented) The computer-readable medium of Claim 26 wherein the step of generating certain criteria based on contents of a plurality of electronic mail messages received over said network includes the steps of:

generating message signatures for each electronic mail message of said plurality of electronic mail messages, wherein each message signature includes one or more message signature elements; and

counting how many of said one or more message signature elements match message signature elements from other message signatures.

40. (Previously Presented) The computer-readable medium of Claim 39 wherein the step of determining whether said electronic mail message satisfies said one or more criteria includes determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements of previously generated message signatures.

41. (Previously Presented) The computer-readable medium of Claim 40 wherein the step of determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements further includes determining whether a message signature generated for said electronic mail message includes at least one message signature element that matches a threshold number of message signature elements of previously generated message signatures that are associated with a period of time.

42. (Previously Presented) The computer-readable medium of Claim 26 wherein the step of processing said electronic mail message as a first type of electronic mail includes adding a bulk electronic mail flag to said electronic mail message.

43. (Previously Presented) The computer-readable medium of Claim 42, the steps further including
after processing said electronic mail message as a first type of electronic mail,
transmitting said electronic mail message to an electronic mail server;
said electronic mail server receiving said electronic mail message;
said electronic mail server determining whether said electronic mail message contains
said bulk electronic mail flag; and
if said electronic mail message contains said bulk electronic mail flag, then processing
said electronic mail message without further verifying whether said electronic
mail message is bulk electronic mail.

44. (Previously Presented) The computer-readable medium of Claim 29, wherein: the step of a central server receiving from an electronic mail server a message ~~signatures~~signatures includes receiving a set of one or more values generated by a one-way hash function; ~~and the step of said electronic mail server determining whether a portion of said message signature matches includes determining whether at least one of said set of one or more values matches a threshold number of previously received values generated by a one-way hash function.~~

1 45. (Previously Presented) The computer-readable medium of Claim 44, the steps further
 2 including the step of transmitting one or more messages to said electronic mail server
 3 specifying changes to one or more routines invoked by said electronic mail server to
 4 generate message signatures.

1 46. (Previously Presented) The computer-readable medium of Claim 45, wherein the step of
 2 transmitting one or more messages includes transmitting platform-independent byte code.

1 47. (Previously Presented) The computer-readable medium of Claim 31, wherein:
 2 the step of a central server receiving includes receiving a particular recipient signature
 3 associated with a particular message signature; and
 4 the step of generating counts includes generating counts of how many times said one or
 5 more message signature elements match message signature elements that are:
 6 generated for other electronic mail messages, and
 7 associated with a recipient signature that differs from said particular recipient
 8 signature.

1 48. (Canceled)

1 49. (Currently Amended) The computer-readable medium of Claim 47, wherein the step of
 2 transmitting messages ~~reflecting said counts~~ includes transmitting message signature
 3 elements associated with counts greater than a threshold.

1 50. (Currently Amended) A method of managing electronic mail, the method comprising the
2 computer-implemented steps of:
3 automatically generating certain criteria based on contents of a plurality of electronic
4 mail messages received over a network;
5 wherein the step of automatically generating certain criteria includes, in response to
6 determining that a threshold number of said plurality of electronic mail messages
7 have a particular content, generating one or more criteria that classifies electronic
8 mail messages that have said particular content as a first type of electronic mail;
9 receiving an electronic mail message over said network;
10 determining whether said electronic mail message satisfies said one or more criteria;
11 if said electronic mail message satisfies said one or more criteria, then processing said
12 electronic mail message as said first type of electronic mail;
13 if said electronic mail message does not satisfy said one or more criteria, then processing
14 said electronic mail message as a second type of electronic mail;
15 wherein said first type of electronic mail is processed differently than said second type of
16 electronic mail;
17 wherein the step of determining that a threshold number of said plurality of electronic
18 mail messages have a particular content includes the steps of:
19 generating message signatures for each electronic mail message of said plurality
20 of electronic mail messages, wherein each message signature includes one
21 or more signature elements; and
22 counting how many of said one or more signature elements match signature
23 elements from other message signatures; and

24 wherein at least one electronic mail message of said plurality of electronic mail
 25 messages has not been classified, before determining that a threshold number of
 26 said plurality of electronic mail messages have a particular content, as belonging
 27 to said first type.

28

1 51. (Previously Presented) The method of Claim 50 wherein the step of determining whether
 2 said electronic mail message satisfies said one or more criteria includes determining
 3 whether a message signature generated for said electronic mail message includes at least
 4 one signature element that matches a threshold number of signature elements of
 5 previously generated message signatures.

1 52. (Previously Presented) The method of Claim 51 wherein the step of determining whether
 2 a message signature generated for said electronic mail message includes at least one
 3 signature element that matches a threshold number of signature elements further includes
 4 determining whether a message signature generated for said electronic mail message
 5 includes at least one signature element that matches a threshold number of signature
 6 elements of previously generated message signatures that are associated with a period of
 7 time.

1 53. (Currently Amended) A computer-readable medium carrying one or more sequences of
 2 one or more instructions for managing electronic mail, wherein the execution of the one
 3 or more sequences of the one or more instructions causes the one or more processors to
 4 perform the steps of:

5 automatically generating certain criteria based on contents of a plurality of electronic
 6 mail messages received over a network;
 7 wherein the step of automatically generating certain criteria includes, in response to
 8 determining that a threshold number of said plurality of electronic mail messages
 9 have a particular content, generating one or more criteria that classifies electronic
 10 mail messages that have said particular content as a first type of electronic mail;
 11 receiving an electronic mail message over said network;
 12 determining whether said electronic mail message satisfies said one or more criteria;
 13 if said electronic mail message satisfies said one or more criteria, then processing said
 14 electronic mail message as said first type of electronic mail;
 15 if said electronic mail message does not satisfy said one or more criteria, then processing
 16 said electronic mail message as a second type of electronic mail;
 17 wherein said first type of electronic mail is processed differently than said second type of
 18 electronic mail;
 19 wherein the step of determining that a threshold number of said plurality of electronic
 20 mail messages have a particular content includes the steps of:
 21 generating message signatures for each electronic mail message of said plurality
 22 of electronic mail messages, wherein each message signature includes one
 23 or more signature elements; and
 24 counting how many of said one or more signature elements match signature
 25 elements from other message signatures; and
 26 wherein at least one electronic mail message of said plurality of electronic mail
 27 messages has not been classified, before determining that a threshold number of

28 said plurality of electronic mail messages have a particular content, as belonging
 29 to said first type.

1 54. (Previously Presented) The computer-readable medium of Claim 53 wherein the step of
 2 determining whether said electronic mail message satisfies said one or more criteria
 3 includes determining whether a message signature generated for said electronic mail
 4 message includes at least one signature element that matches a threshold number of
 5 signature elements of previously generated message signatures.

1 55. (Previously Presented) The computer-readable medium of Claim 54 wherein the step of
 2 determining whether a message signature generated for said electronic mail message
 3 includes at least one signature element that matches a threshold number of signature
 4 elements further includes determining whether a message signature generated for said
 5 electronic mail message includes at least one signature element that matches a threshold
 6 number of signature elements of previously generated message signatures that are
 7 associated with a period of time.